# HALRIC Research Internship Programme

## Internship Proposal

**Project Title:** Aquaporin-5 and the effect on cancer cell intra- and extravasation in a live zebrafish model

**Name of Institution/Country**: Aarhus University

**Name of internship provider:** Lene N. Nejsum and Catarina Pimpão

**Contact details:** Lene N. Nejsum nejsum@clin.au.dk, Catarina Pimpão pimpaocatarina@gmail.com

**Proposed timeframe:** 6 months

**Application deadline:**
May 30th 2025

**Administrative contact person at the organisation:**

NA

**Scientific research questions**

How does aquaporin overexpression affect cancer cell intra- and extravasation?

**Experimental approach**

We will use a zebrafish model to investigate how aquaporin water channels, that are overexpressed in human cancer and implicated in cancer progression and metastasis, affect the intra- and extravasation processes. Intravasation: cancer cells will be injected into the yolk sac of 2-day-old embryos from where they will intravasate into the blood stream followed by extravasation to the tail region. Extravasation: cells will be injected into the precardiac sinus of 2-day-old embryos from where they will extravasate into the tail region. Fluorescent imaging of whole fish and subsequent image analysis will be performed. Number of intravasated and extravasated cells in the blood stream and tail region will be quantified.

**Tasks of the intern**

Aid with all aspects of the zebrafish model including breeding and selecting larvae

**General information about the work group, the university and the region**

The group is located at the Department of Clinical Medicine, Aarhus University in Denmark.

Our research is dedicated to unraveling the intricacies of epithelial function in both normal physiological states and pathophysiological conditions. A central focus is aquaporin (AQP) water channels, which are pivotal in maintaining body water homeostasis and implicated in cancer development.

Read more on: nejsumlab.au.dk

**Eligibility and qualification of the applicant:**

Must have excellent laboratory and communication skills.